



# Impact of Staffing Increases and Mental Health Enhancements on Suicide Rates in the Veterans Health Administration

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# Acknowledgements

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VHA Serious Mental Illness Treatment Resource  
and Evaluation Program



# VA Strategy

- Prevention requires ready access to high quality mental health services within the health care system
- Supplemented by two additional components
  - Public education and awareness promoting engagement for those who need help, and
  - Availability of specific services addressing the needs of those at high risk.

# **Charting the Future of Suicide Prevention: A 2010 Progress Review of the National Strategy and Recommendations for the Decade Ahead**

- Prepared by the Suicide Prevention Resource Center (SPRC) and Suicide Prevention Action Network USA (SPAN USA), a division of American Foundation for Suicide Prevention (AFSP)
  - August, 2010
- In the past few years the Department of Veterans Affairs has become one of the most vibrant forces in the U.S. suicide prevention movement, implementing multiple levels of innovative and state of the art interventions, backed up by a robust evaluation and research capacity.
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# The important question is:

## Does VA's suicide prevention strategy work?

Findings reviewed here are based on the most recent available information on suicide rates in the Veterans Health Administration. The methods are based on analysis of the associations between changes in suicide rates and changes in mental health staffing across the VISNs from 2005 to 2009. There have been Substantial increases in staffing throughout the system since 2009, and the findings may not reflect the impact of current staffing patterns. However, they remain relevant as tests of the effectiveness of VHA's strategy for suicide prevention.

# Changes in Staffing as a Component of VA's Overall MH Enhancements



# Increases in MH Staffing: 2005 to 2009

	2005	2009	% Increase
Total MH	13567	18543	36.68%
Inpatient	5542	6371	14.96%
Residential	1477	2167	46.67%
MHICM	516	788	52.53%
Outpatient	6031	9218	52.84%
Direct Outpatient	5461	8245	51.00%
Basic Direct Outpatient	4765	7485	57.09%

Total MH staffing increased to 20,547 by the end of 2011  
and outpatient MH staffing , to 10,861.

# Increases in VHA Patients: 2005 to 2009

	2005	2009	% Increase
Total Patients	5011787	5349578	6.74%
Confirmed MH Patients	887613	1136731	28.07%

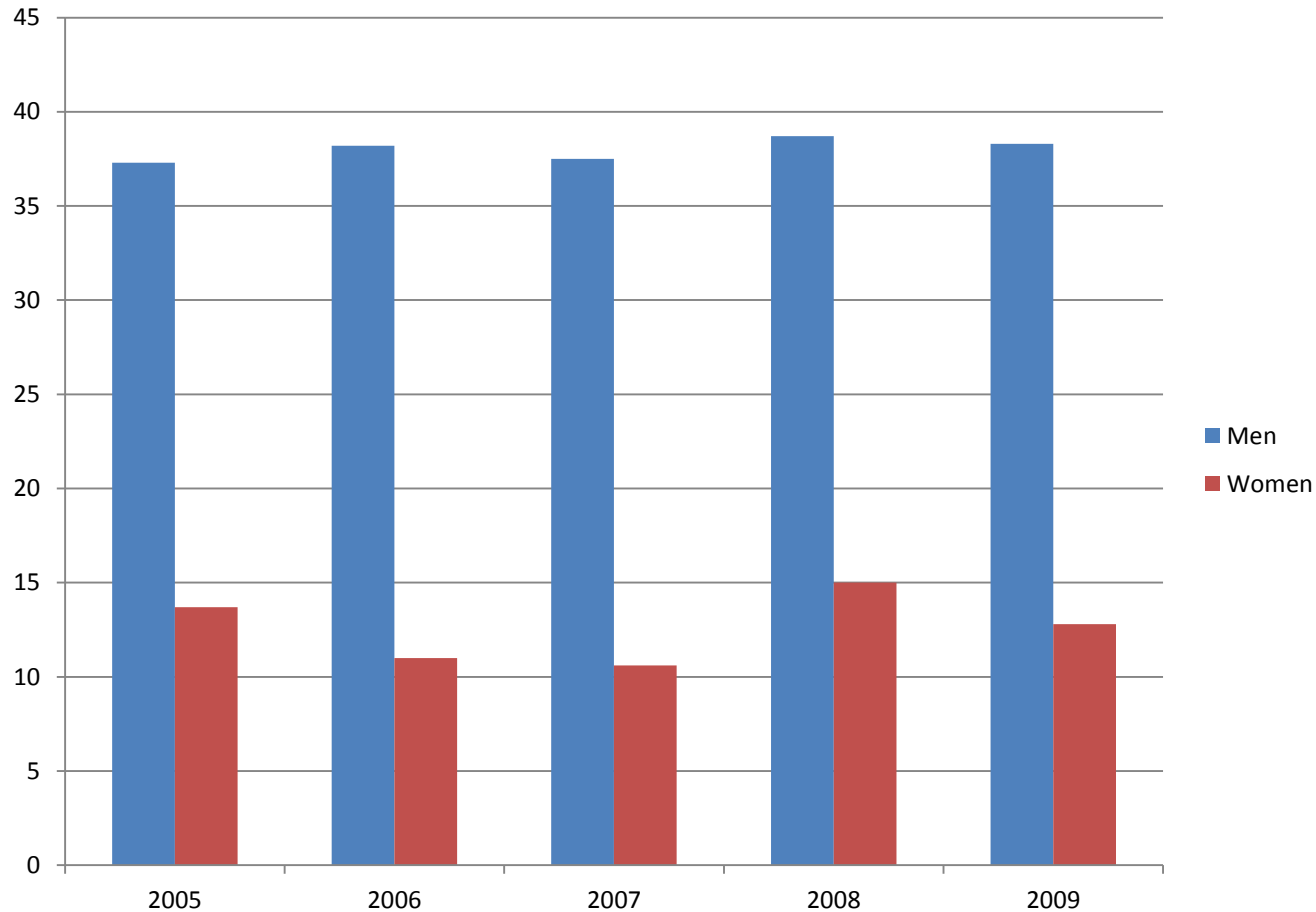


# Increases in MH Staffing per MH 1000 MH Patients: 2005-2009

	2005	2009	% Increase
Total MH	15.2843	16.3124	6.73%
Inpatient	6.2432	5.6042	-10.23%
Residential	1.6644	1.9062	14.53%
MHICM	0.5818	0.6929	19.10%
Outpatient	6.7949	8.1091	19.34%
Direct Outpatient	6.1520	7.2537	17.91%
Basic Direct Outpatient	5.3678	6.5844	22.66%

# Stability of Suicide Rates

# Stability of Suicide Rates in VHA: 2005 to 2009

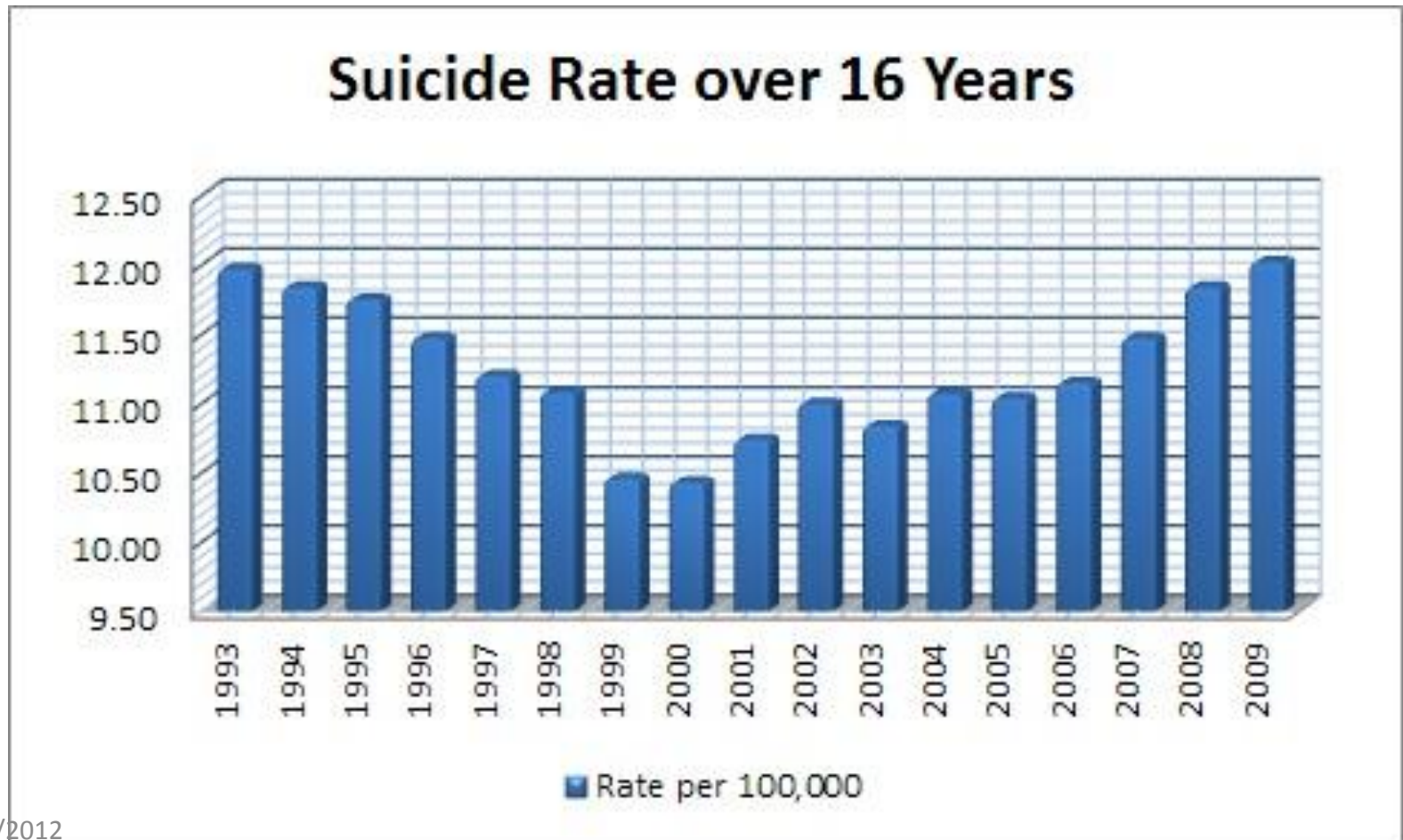


# Complications in Interpretation

Complications:

# Suicide Rates in the Rest of the Country are Increasing

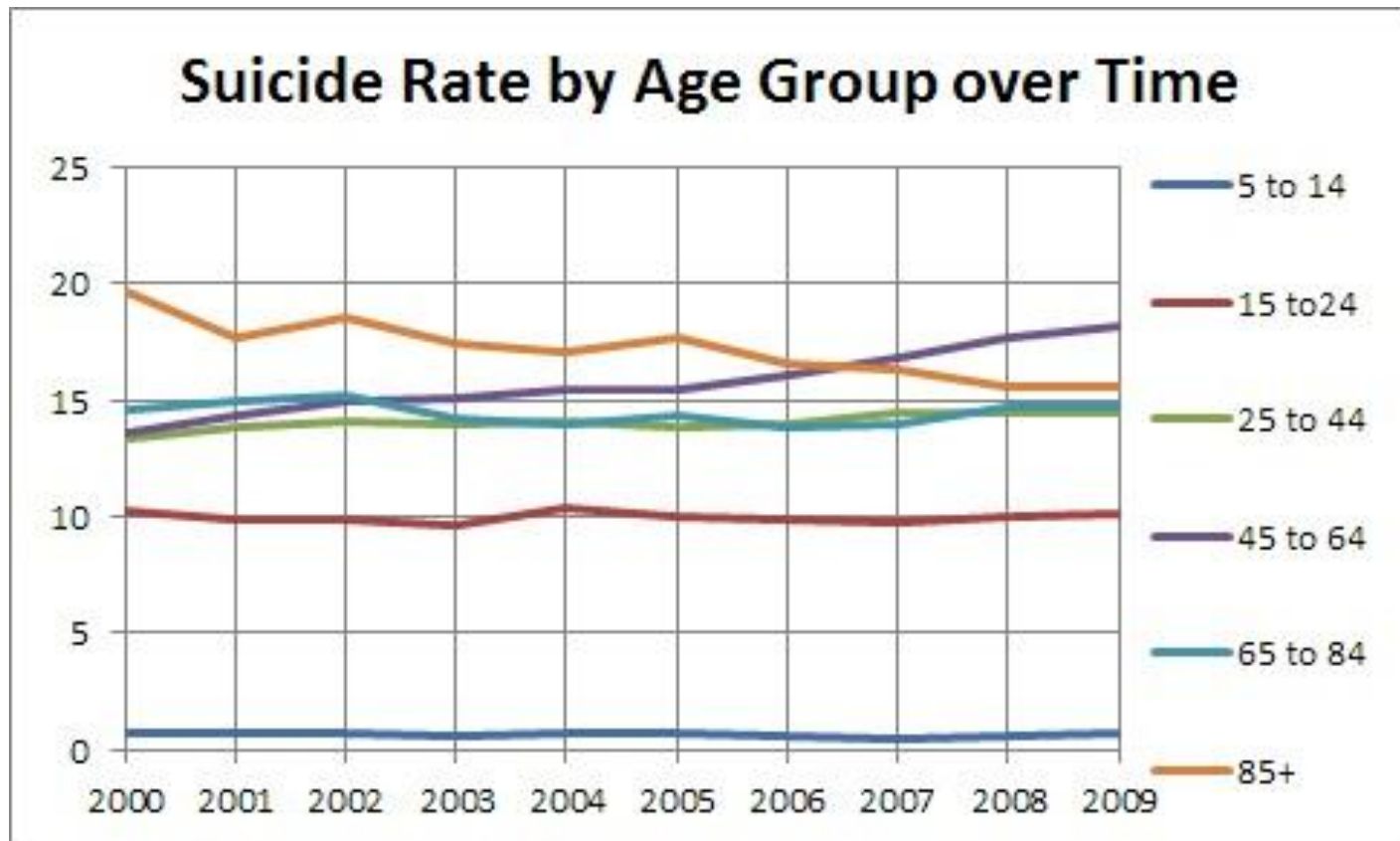
From AFSP



Complications:

# Suicide Rates in the Rest of the Country are Increasing

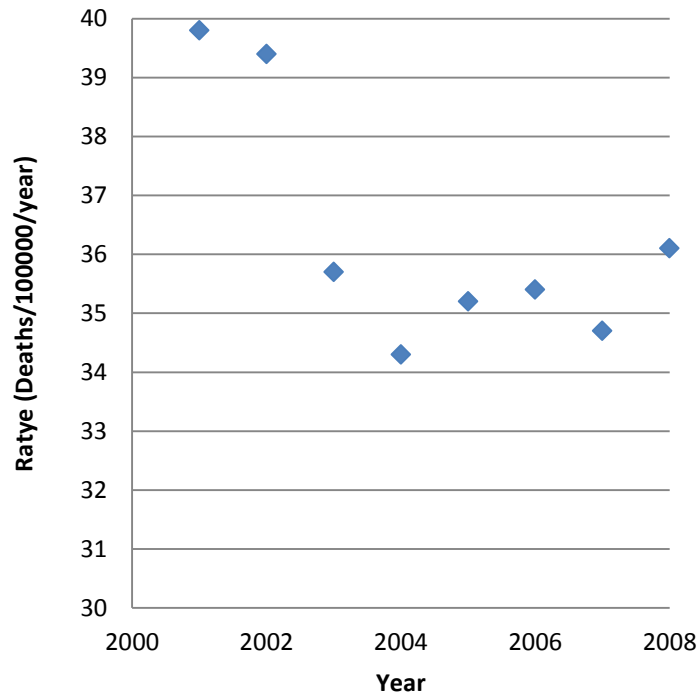
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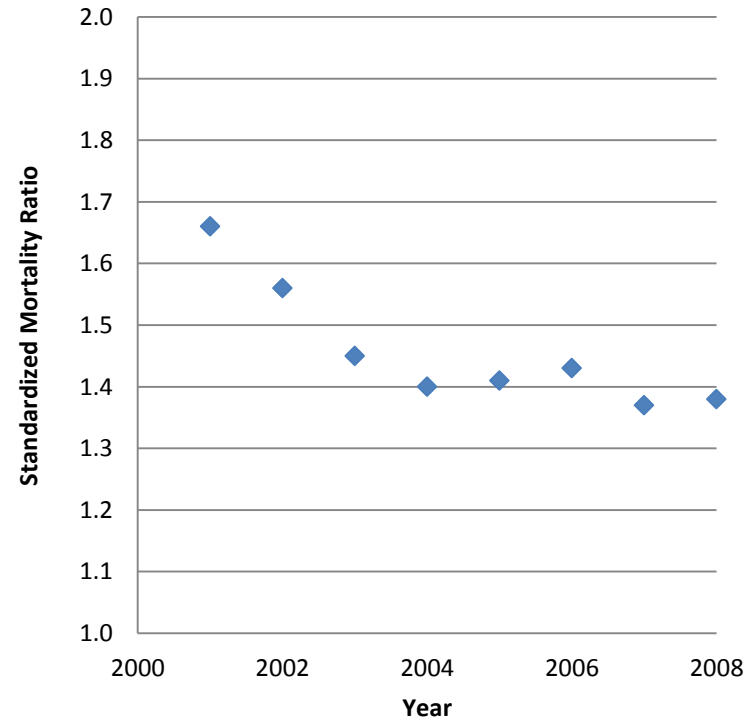
Complications:

# Suicide Rates in the Veterans Health Administration have been decreasing since 2001-2002

**Suicide Rates for Veterans  
Using VA Health Care**



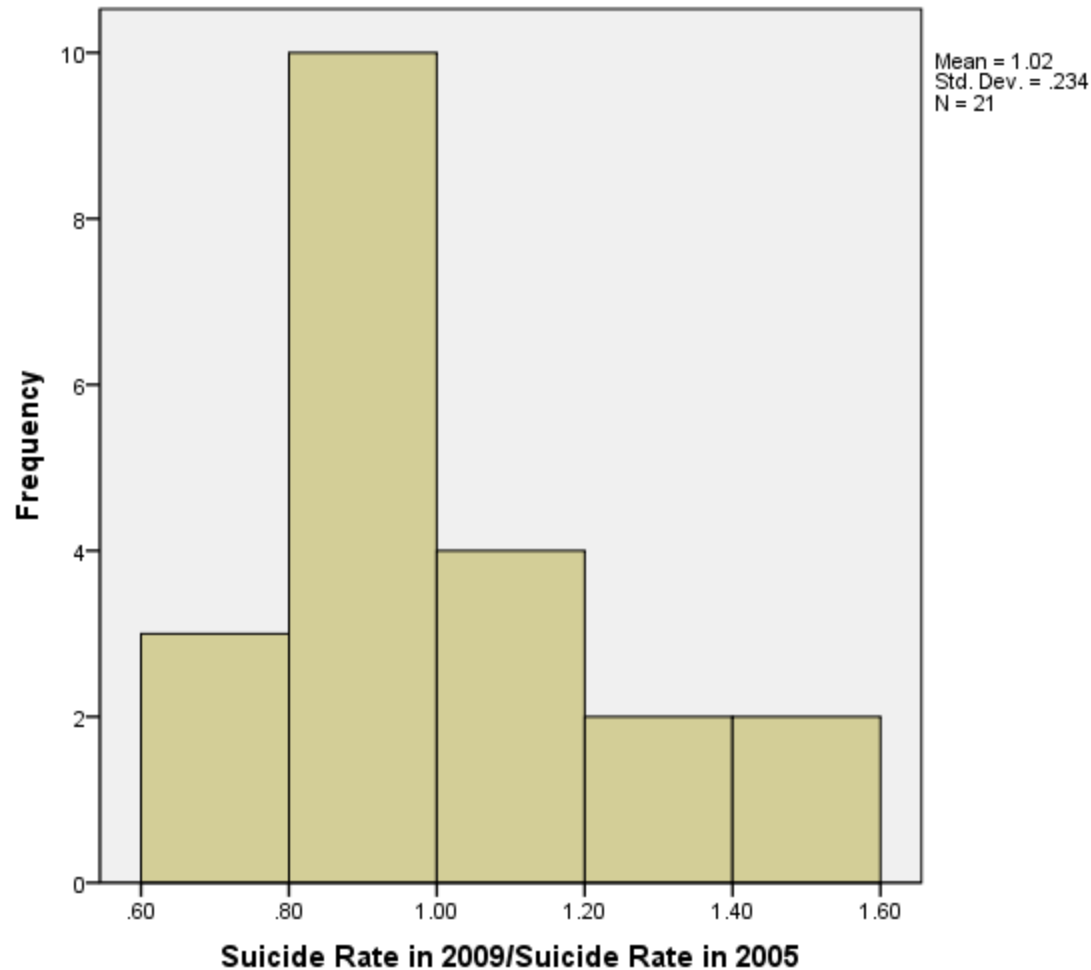
**Standardized Mortality  
Ratios**



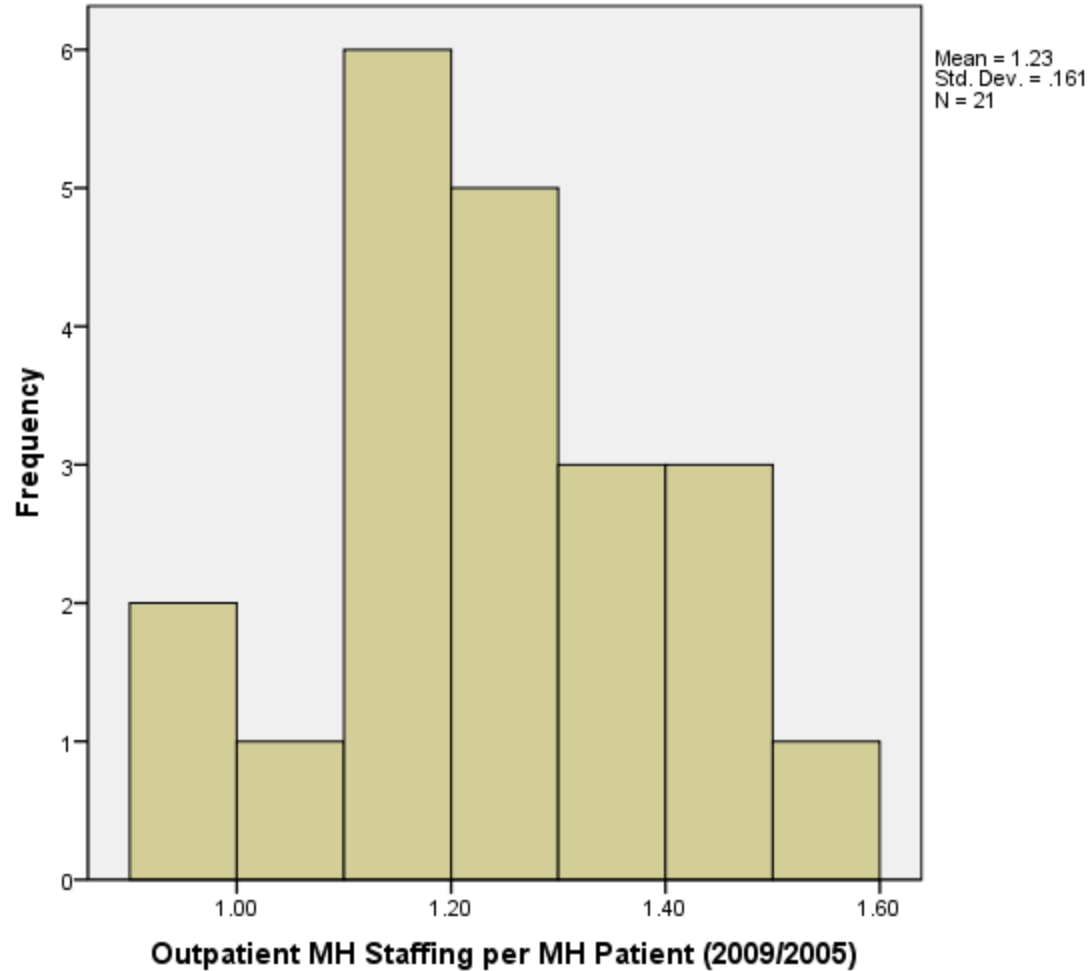
# Variability across VISNs



# Variability in Changes in Suicide Rates



# Variability in Changes in Staffing



# Correlations between Changes in Staffing and Changes in Suicide Rates

# Correlations between changes in suicide rates and changes in core mental health staffing by VISN

Variable	Pearson R
Mental Health Total	-.150
Inpatient	+.217
Residential	-.076
Education	-.200
MHICM	-.200
Outpatient	<b><u>-.453</u></b>

The observed correlation between increases in outpatient core mental health staffing and decreases in suicide rates, demonstrates that about 20% of the variability between VISNs in changes in suicide rates was related to changes in staffing.

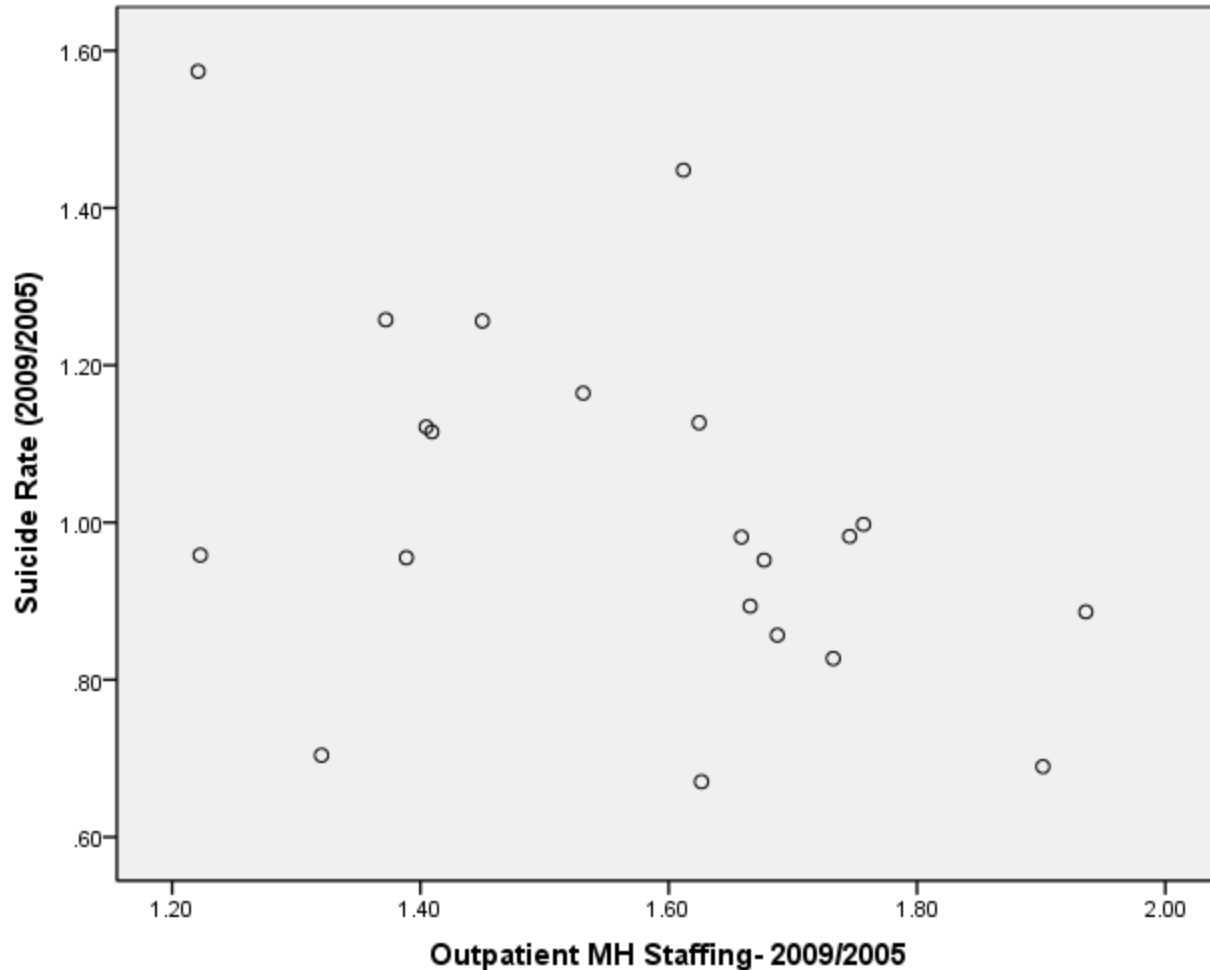
# Correlations between changes in suicide rates and changes in subcomponents of core mental health outpatient staffing by VISN

Outpatient Direct Subcomponents	Pearson R
Basic	<b><u>-.433</u></b>
SUD	.029
PTSD	.057
Rehab/ Recovery	-.287
Day (exclusive of vocational)	-.096

# Correlations between changes in suicide rates and changes in core mental health outpatient staffing by discipline and by VISN

Core Staff Category	Total	Outpatient	Direct Outpatient
Nursing (RN, LPN, NA)	-.032	-.267	-.338
MD Extenders (NP, CNS, PA, PharmD)	-.202	-.286	-.251
Physicians (Full and part time)	-.131	-.279	-.255
Psychologists (includes assistants)	.164	.059	.016
Social Workers (Includes assistants)	-.222	-.282	-.310
Other Therapists (PT,OT, Other)	-.260	-.320	-.339

# Relationship between changes in outpatient staffing and changes in suicide rates by VISN



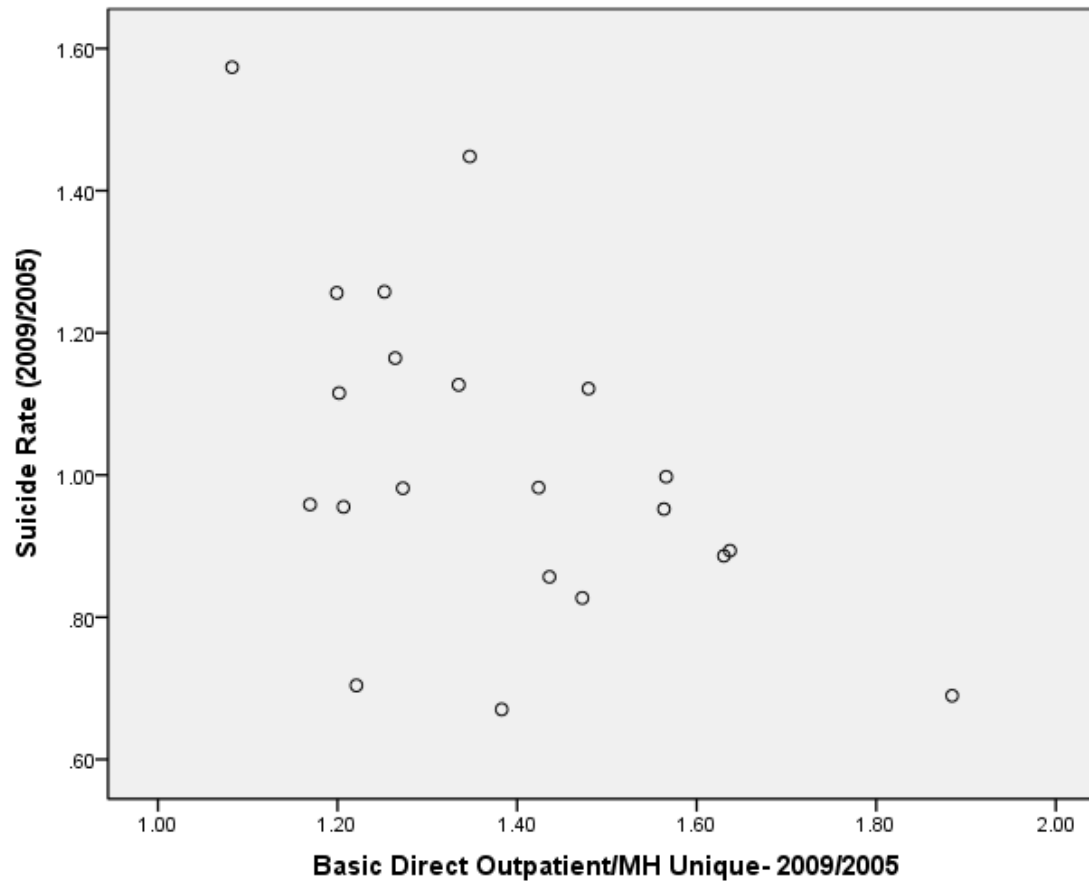
# Correlations between changes in suicide rates and changes in core mental health staffing per unique by VISN

Staff Component	Pearson R	
	Proportional Increase in Staff/Uniques	Proportional Increase in Staff/MH Uniques
MH Total	-.221	-.313
Outpatient MH	<b><u>-.480</u></b>	<b><u>-.510</u></b>
Direct Outpatient MH	<b><u>-.481</u></b>	<b><u>-.514</u></b>
Basic Direct Outpatient MH	<b><u>-.483</u></b>	<b><u>-.522</u></b>

The observed correlations between increases in outpatient core mental health staffing and decreases in suicide rates, demonstrates that up to 27% of the variability between VISNs in changes in suicide rates is related to changes in staffing.



# Relationship between changes in outpatient staffing and changes in suicide rates by VISN



# Differences between VISNs above and below the median in staffing changes

# VISNs with Higher versus Lower Increases in Staffing

- Based on inspection of the graph, an analysis compared changes in suicide rates for the 10 facilities above and below the median
- For Outpatient staffing
  - Rates decreased in facilities above the mean by 13%
  - Rates increased in facilities below the mean by 15%
  - $F(1,18)=10.36$ ;  $p=.005$
- For Direct Outpatient staffing
  - Rates decreased in facilities above the mean by 8%
  - Rates increased in facilities below the mean by 11%
  - $F(1,18)=3.26$ ;  $p=.088$
- For Basic Direct Outpatient staffing
  - Rates decreased in facilities above the mean by 8%
  - Rates increased in facilities below the mean by 11%
  - $F(1,18)=3.52$ ;  $p=.077$ .

# VISNs with Higher versus Lower Increases in Staffing/Total Uniques

- Based on inspection of the graph, an analysis compared changes in suicide rates for the 10 facilities above and below the median
- For TOTAL UNIQUES
  - For Outpatient staffing
    - Rates decreased in facilities above the mean by 10%
    - Rates increased in facilities below the mean by 13%
    - $F(1,18)=5.66$ ;  $p=.029$
  - For Direct Outpatient staffing
    - Rates decreased in facilities above the mean by 10%
    - Rates increased in facilities below the mean by 16%
    - $F(1,18)=8.13$ ;  $p=.011$
  - For Basic Direct Outpatient staffing
    - Rates decreased in facilities above the mean by 11%
    - Rates increased in facilities below the mean by 16%
    - $F(1,18)=8.80$ ;  $p=.008$ .

# VISNs with Higher versus Lower Increases in Staffing/MH Uniques

- Based on inspection of the graph, an analysis compared changes in suicide rates for the 10 facilities above and below the median
- For MH UNIQUES
  - For Outpatient staffing
    - Rates decreased in facilities above the mean by 7%
    - Rates increased in facilities below the mean by 14%
    - $F(1,18)=5.170$ ;  $p=.035$
  - For Direct Outpatient staffing
    - Rates decreased in facilities above the mean by 7%
    - Rates increased in facilities below the mean by 17%
    - $F(1,18)=5.170$ ;  $p=.035$
  - For Basic Direct Outpatient staffing
    - Rates decreased in facilities above the mean by 11%
    - Rates increased in facilities below the mean by 11%
    - $F(1,18)=6.69$ ;  $p=.019$ .

# Lessons Learned

# Conclusions

- VA's strategy for mental health enhancement and suicide prevention are effective in those networks where they are best implemented.
- VA's experience is consistent with the hypothesis that an investment in mental health services together with specific programs for suicide prevention can save lives.
- The findings reported here may no longer be relevant to understanding the relationships between operations and outcomes for the mental health and suicide prevention programs. This emphasizes the importance of real-time surveillance.